REMARKS

Claims 1-17, 39, and 40 are presently pending in this application. Applicant respectfully traverses the Rejections/Objections, which are discussed below.

Objections to the Specification

The Office has objected to the Specification for failure to comply with the preferred layout provided in 37 C.F.R. §1.77(b). As Applicants' amendments to the Specification in order to comply with Rule 1.77(b) obviate the Office's objections, Applicants respectfully request the withdrawal of the objections to the specification.

Claim Rejections Under 35 U.S.C. § 102

The Office rejected claims 1-17 and 39-40 under 35 U.S.C. § 102(b) as anticipated by International Publication No. WO0067131 to Roberts et al. ("Roberts"). Applicants respectfully traverse the rejections and submit that claims 1-17 and 39-40 recite subject matter not disclosed by Roberts.

Claim 1, for instance, is patentable over Roberts because Roberts fails to disclose each and every element of claim 1. For instance, Roberts fails to disclose a first queue of data received over the link and addressed to a logical data port associated with a user application and a second queue of data received over the link and identified as being directed to the operating system, as claim 1 requires.

At a basic level, Roberts and the Present Applicant describe data processing systems with different architectures. Roberts describes that received data is passed to the device driver, which is a kernel-level entity. The data processing system uses a single queue structure into which data is received via a shared memory channel from another data processing entity. Synchronization at

the queue is provided by means of the Tripwire primitive. *See* Roberts at p. 10, ¶ 2. Thus, Roberts suffers from the overhead problems identified in the Present Application. *See* Present Application at [0060] – [0063].

The communication interface and system of the present invention, on the other hand, allows the problems identified in conventional data processing systems, such as Roberts, to be overcome because the communication interface itself supports separate data queues for a data port of a user application and the operating system. The communication interface directs data addressed to a particular logical data port of an application to a dedicated queue for that data port, and allows data that does not meet the one or more predefined criteria to be passed to the respective user application without requiring a kernel context switch, or the transmission of an interrupt to the operating system.

In conventional systems, bypassing the kernel so as to minimize the number of kernel context switches required to receive data into the address space of an application can threaten systems and connection integrity. *See* Present Application at [0036]-[0039]. The present invention, on the other hand, configures the communication interface to transmit an interrupt to the operating system only if data received at the communication interface meets one or more predefined criteria, such as certain error conditions or association with an application for which processing has been suspended. This ensures that an interrupt is raised and a context switch is required only when data that meets the one or more predefined criteria is received, allowing the operating system to step in and handle the data.

The present invention, thus solves the problem of how to provide a low overhead data path between communication interface and application address space while allowing system integrity to be maintained by, inter alia, providing first and second data queues directed to logical

data ports associated with user application and the operating system, respectively. Roberts simply discloses no such architecture. Applicants, therefore, respectfully request the withdrawal of the rejections of claim 1 and claims 2-17 and 39-40, which depend from claim 1.

If any extension of time is required in connection with the filing of this paper and has not been requested separately, such extension is hereby requested.

The Commissioner is hereby authorized to charge any fees and to credit any overpayments that may be required by this paper under 37 C.F.R. §§ 1.16 and 1.17 to Deposit Account No. 02-2135.

Respectfully submitted,

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January 24, 2008

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